Assessment & Evaluation of Education Projects:

How We Know Our Efforts Are Successful!

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Agenda

- Historical Perspective
- Definitions
- Case Study
- Life Cycle of a Project
- Needs Assessment
- Design, Planning, and Implementation
- Evaluation

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Historical Perspective

- Great Society and War on Poverty programs of the 1960s founded on good intentions
- Billions of dollars later, most social indicators showed little improvement
- Few programs had data on results achieved

Movement to a New Era…

- Growing concerns about federal budget deficits in the 1990s
- Media attention on government waste and ineffectiveness
- Public demands to know what has been achieved by the programs created and money spent

"The Age of Accountability"

- Reinventing Government

  If you don't measure results, you can't tell success from failure; if you can't see success, you can't reward it or learn from it.

- 1993 Government Performance and Results Act (GPRA)

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GPRA

- Shift management focus to results
- Improve program efficiency and effectiveness
- Improve accountability and public confidence in government
- Through annual reporting where actual performance is compared against performance goals

"The Age of Accountability"

- Worldwide demand for evaluation

  - International agencies – World Bank, UNICEF, USAID – have active evaluation offices

  - National evaluation associations

- 2001 No Child Left Behind – emphasis on accountability
- Increasing interest in large scale evaluations within evaluation field

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Case Study

NOAA's Designing Education Projects (DEP)

- Designed to improve NOAA employee's capacity to conduct education projects
- 3-day workshop that covers project needs assessment, project design, planning, & implementation, and project evaluation
- Initially offered to NWS WCMs

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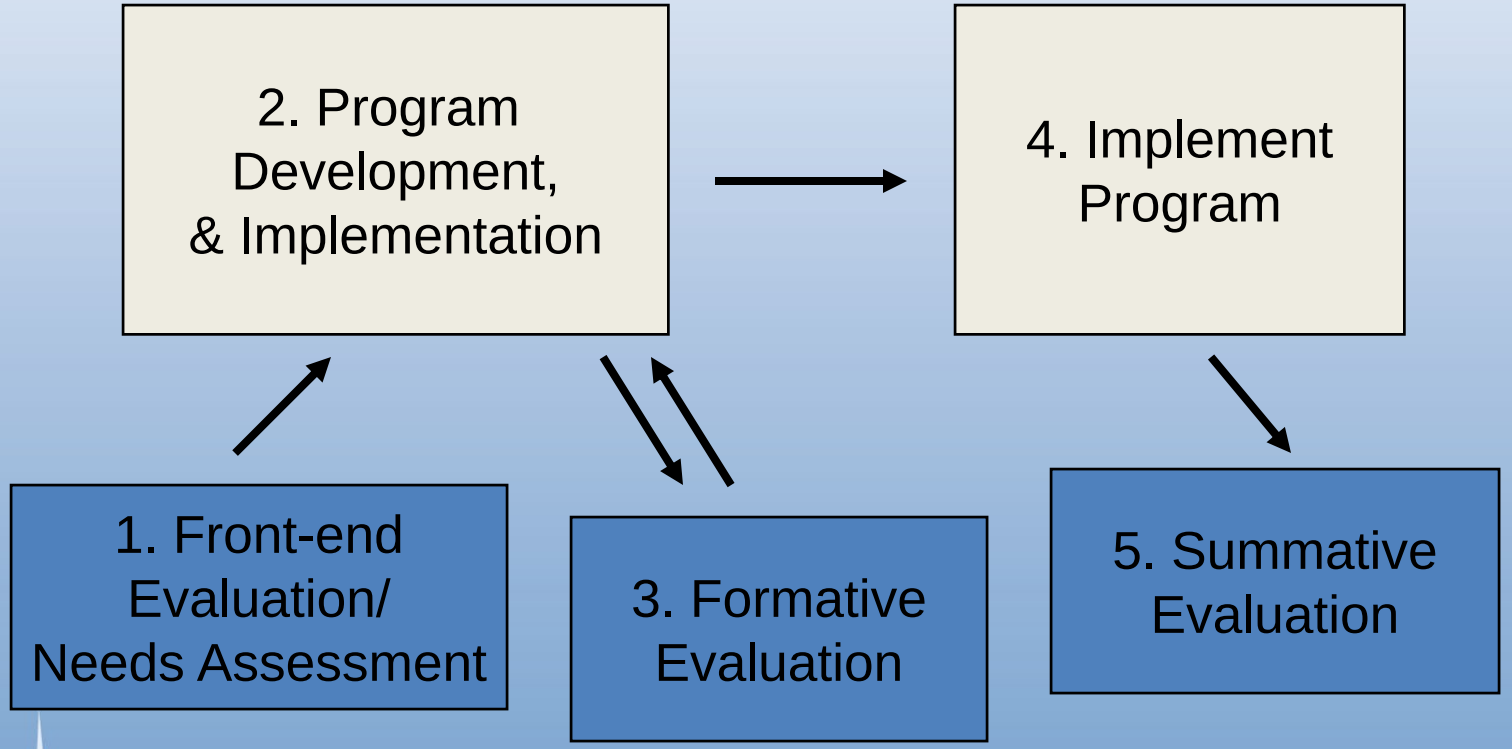
Program Development Process Linked with Evaluation



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Life Cycle of a Project

Needs Assessment

- Planning
- Data Collection
- Data Analysis & Reporting, Priority Setting

Design, Planning, & Implementation

Evaluation

- Planning
- Data Collection
- Data Analysis & Reporting

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Needs Assessment: Planning

- Focus, refine issue(s) & identify stakeholders
- Establish planning team
- Establish assessment goals & objectives
- Gather existing information & conduct literature review
- Define participants in needs assessment
- Design data collection strategies

Needs Assessment: Data Collection

- Determine sampling scheme
- Design & pilot collection instrument(s)
- Gather & record data

Needs Assessment: Data Analysis, Data Reporting & Priority Setting

- Perform data analysis
- Determine priorities & identify potential solutions
- Synthesize information & report

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Design, Planning & Implementation

- (Re)assess need & capability
- Establish project planning team
- Develop project goals & objectives
- Develop logic model

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Design, Planning & Implementation (cont.)

- Select & characterize audience
- Establish program format & delivery strategies
- Ensure quality instructional staff
- Ensure quality instructional materials & strategies

Design, Planning & Implementation (cont.)

- Assemble materials, obtain resources & facilities
- Plan for emergencies
- Promote, market & disseminate
- Implement project

Evaluation

- Is a systematic collection of information about activities, characteristics, & outcomes of a project in order to make judgments about the project, improve effectiveness, and/or inform decisions
- Is **not** a frill or luxury – 5 to 15% of budget
- Is critical for obtaining external funding

Evaluation (cont.)

- Should be part of project planning from outset
- There are three basic types of evaluation:
  - Front-end / Needs Assessment
  - Formative: conducted during implementation
  - Summative: conducted after implementation
- ***Sometimes*** hiring an outside evaluator is warranted

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Types of Evaluation

- **Front-End:** to guide program development (Is this program needed? How should it be designed? What should the program outcomes be?); Used by those developing the program.
- **Formative:** to guide program improvement (What is working? What needs to be improved? How it can be improved?); Generally used internally; *Often* occurs in early stages of program development and implementation.
- **Summative:** to guide decisions about the program's future; Used internally and externally by key decision-makers (program staff, supervisors, funders); O*ften* occurs later in program development

Formative vs. Summative

"When the cook tastes the soup, that's formative evaluation; when the guest tastes it, that's summative evaluation." (Scriven, 1991)

- Differ based on the decisions or judgments to be made (what to revise or change v. what to continue or expand)

Why is Evaluation Important?

- Evaluation answers the questions?:
  - "What is and what is not working?"
  - "How do we know our education efforts are successful?"
- Evaluation provides perspective, evidence, and information necessary for sound decision making.

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Evaluation can be used to:

- Guide the development of programs
- Compare programs
- Make program improvements
- Determine worth or merit
- Justify programs, explain accomplishments
- Determine if a program should be continued

Practical Uses

- Is the program needed?
- Is improvement needed?
- What are the program's impacts?
- Is the program cost-effective?
- Should the program be continued?

When there is not enough time and money to do EVERYTHING, *EVALUATION* helps us decide which things are worth doing!

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Evaluation: Planning

- Reexamine the issue, audience, & project objectives
- Establish planning team
- Establish goals & objectives for evaluation
- Clarify timeline for activities & impacts
- Perform literature search
- Select data collection methods; develop questions based evaluation goals & objectives

Evaluation: Data Collection

- Determine the audience sample
- Design & pilot data collection instrument(s)
- Gather & record data

Evaluation: Data Analysis and Reporting

- Perform data analysis
- Manage data
- Synthesize information & create report

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Matching Assessment Tools to What Is Being Assessed

Data Collection Method	Knowledge	Skills	Attitudes	Behaviors
Test	X	X		
Questionnaire or Survey	X	X	X	(X)
Observation		X		X
Interview	X		X	(X)
Focus Group	(X)		X	
Case Study	X	X	X	X
Concept Map	X		(X)	
Document or Product Review	X	X	(X)	X
Literature Review	X	X	X	X

(X) Indicates that this technique may be, but is not always, appropriate to evaluate this type of learning.

Evaluation Methods for Your Audience

	EVALUATION METHODS						
AUDIENCE	Test	Survey/Q's	Observation	Interview	Focus Group	Case Study	Concept Map
Adults who know you or your organization	**G**	**G**	**G**	**G**	**G**	**G**	**G**
Adults who do not know you or your organization	**F - P**	**G**	**G**	**G**	**G**	**F**	**G - F**
Decision-makers/ Policy Makers/ Community Leaders	**G - F**	**G - F**	**G - F**	**G**	**F**	**G**	**F**
Cultural Groups (other than your own)	**P**	**F - P**	**G - F**	**F - P**	**G - F**	**F - P**	**G - F**
Teachers	**F**	**G**	**G**	**G**	**G**	**G**	**F**
Teens	**F**	**F**	**F**	**G**	**F**	**G**	**G**
8-12 year olds	**F**	**F**	**F**	**F**	**F**	**F**	**G**
3-7 year olds	**N/A**	**N/A**	**G**	**F - P**	**F - P**	**F - P**	**N/A**

Evaluation Method by Mechanism

EVALUATION METHODS						
EDUCATION MECHANISM	Test	Survey/Qs	Observation	Interview	Focus Group	Concept Map
Talk/Lecture (short, single event)	**G - F**	**F**	**P**	**P**	**P**	**F**
Workshop (single event)	**G**	**G**	**P**	**F**	**F**	**G - F**
Series (multiple meetings)	**G**	**G**	**F**	**G**	**F**	**G**
Training (skill building)	**F**	**F**	**G - F**	**G**	**G**	**F**
Tour (adults)	**F**	**F**	**F**	**G**	**F**	**F**
Tour (3-16 year olds)	**P**	**P**	**F - P**	**F**	**F**	**F**
Festival/Event	**N/A**	**G**	**F**	**G**	**F**	**N/A**

Evaluation Method by Mechanism (cont.)

EVALUATION METHODS						
EDUCATION MECHANISM	Test	Survey/Qs	Observation	Interview	Focus Group	Concept Map
Interpretative Signage	**F**	**F**	**G - F**	**G**	**F**	**N/A**
Exhibit	**F**	**G**	**G - F**	**G**	**G**	**G**
Curriculum Packet/ Materials	**F**	**G**	**F**	**G**	**F**	**G**
Kits/Activities	**F**	**G**	**F**	**G**	**F**	**G**
Printed Materials	**F**	**F**	**P**	**G**	**F**	**P**
Media (e.g., video)	**F**	**G - F**	**N/A**	**G**	**G**	**F**
Interactive Media (e.g., CD)	**F**	**G – F**	**G**	**G**	**G**	**G**
Website	**F**	**G - F**	**G**	**G**	**F**	**G**

Evaluation Method by Expected Outcome

	EXPECTED OUTCOMES				
EVALUATION METHODS	Changes in Knowledge	Changes in Skills	Changes in Attitudes	Changes in Intended Behavior/Action	Changes in Behavior/Action
Test	**G**	**F-P**	**N/A**	**N/A**	**N/A**
Survey/Qs	**G**	**P**	**G-F**	**F**	**F**
Observation	**F**	**G**	**F**	**F**	**G**
Interview	**G**	**P**	**G**	**G**	**G-F**
Focus Group	**P**	**P**	**F-P**	**F-P**	**F-P**
Case Study	**G**	**G**	**G**	**G**	**G**
Concept Map	**G**	**P**	**F**	**P**	**P**
Document or Product Review	**G-F**	**F**	**G-F**	**F**	**G-F**

Successful Evaluations…

Can be achieved by:

- Investing heavily in planning.
- Integrating evaluation into ongoing activities of project/program.
- Participating in evaluation & showing program staff that it is an important component of the program.
- Involving program staff often & early in the evaluation process.
- Being realistic about the burden on you & your staff.
- Being aware of ethical & cultural issues in evaluation.

Sometimes hiring a professional evaluator external to your project is warranted.

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Tips for Hiring an External Evaluator

- Define the scope of work; be as specific as possible.
- Determine the budget.
- Identify consultants with experience working on evaluation of education projects (science).

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More Tips

- Interview consultants who seem qualified. Try to determine:
  - ✓Relevance of previous work experience.
  - ✓Workload of consultant and associates. Will deadlines be met?
  - ✓Work Style of consultant. Are they collaborative, flexible, good listeners, interested in your unique project?

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Some More Tips

- Request a written proposal that details process, timeline, responsibilities, and budget.
- Check references; recent client list to assess consultant's ability to meet deadlines and adapt to unforeseen circumstances.
- Make selection on qualifications and "match".
- If writing a proposal, involve the evaluator early in the process.

Finally…

- Develop a written agreement or contract that details expectations, deliverables, timeline, and budget.
- Be forthcoming and flexible. The consultant will do their best job if they fully understand the challenges faced by the project team.

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Questions?

Thank You

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